

What is claimed is:

1. A method for designing a wiring harness assembly for a system, the method comprising:

5 automatically extracting wiring data from wiring harness installation models for a plurality of zones of the system;

reconciling wiring connections between the wiring harness installation models; and

automatically generating at least one wiring harness assembly model from the wiring data extracted from the wiring harness installation models.

10 2. The method of Claim 1, wherein the wiring harness installation models are created in a computer aided three-dimensional interactive application.

3. The method of Claim 2, wherein the computer aided three-dimensional interactive application generates the wiring data in a standard data format.

15 4. The method of Claim 3, wherein the standard data format includes one of standard for the exchange of product model data and initial graphics exchange specification.

5. The method of Claim 1, wherein the reconciling of wiring connections is performed automatically by correlating data extracted from wiring harness installation models.

6. The method of Claim 5, wherein the reconciling of wiring connections is performed according to a modifiable reconciling parameter list.

20 7. The method of Claim 6, wherein the reconciling parameter list includes at least one of a trapping tolerance, an association tolerance, a break model at junctions option, and a separate layers bundling option.

8. The method of Claim 5, wherein the reconciling of wiring connections that are not automatically reconcilable is performed manually by a user.

25 9. The method of Claim 1, wherein the generating of the wiring harness assembly model includes generating a single wiring harness assembly.

10. The method of Claim 1, wherein the generating of the wiring harness assembly model includes generating a plurality of wiring harness assemblies.

11. The method of Claim 1, wherein the generating of the wiring harness assembly model includes generating a two-dimensional model of the wiring harness assembly.

12. The method of Claim 1, wherein the generating of the wiring harness assembly model is performed according to a generating parameter list customizable by a user.

5 13. The method of Claim 12, wherein the generating parameter list includes at least one of a create local data table option, a generate bundle request data file, an extract bundles option, and a flatten bundles into a two-dimensional space option.

14. The method of Claim 1, further comprising generating a processing report describing the generating of the at least one wiring harness assembly model.

10 15. The method of Claim 14, wherein the generating of the processing report model is performed according to a report parameter list customizable by a user.

16. A method for designing a wiring harness assembly for a system, the method comprising:

15 automatically extracting wiring data from wiring harness installation models for a plurality of zones of the system;
automatically reconciling wiring connections between the wiring harness installation models by automatically correlating data extracted from wiring harness installation models;
20 eliciting user input to manually reconcile connections not automatically reconcilable; and
automatically generating at least one two-dimensional wiring harness assembly model from the wiring data extracted from the wiring harness installation models.

25 17. The method of Claim 16, wherein the wiring harness installation models are created in a computer aided three-dimensional interactive application.

18. The method of Claim 17, wherein the computer aided three-dimensional interactive application generates the wiring data in a standard data format.

19. The method of Claim 18, wherein the standard data format includes one of standard for the exchange of product model data and initial graphics exchange specification.

20. The method of Claim 16, wherein the reconciling of wiring connections is performed according to a modifiable reconciling parameter list.

21. The method of Claim 20, wherein the reconciling parameter list includes at least one of a trapping tolerance, an association tolerance, a break model at junctions option, and a separate layers bundling option.

22. The method of Claim 16, wherein the generating of the wiring harness assembly model includes generating a single wiring harness assembly.

23. The method of Claim 16, wherein the generating of the wiring harness assembly model includes generating a plurality of wiring harness assemblies.

24. The method of Claim 16, wherein the generating of the wiring harness assembly model includes generating a two-dimensional model of the wiring harness assembly.

25. The method of Claim 16, wherein the generating of the wiring harness assembly model is performed according to a generating parameter list customizable by a user.

26. The method of Claim 25, wherein the generating parameter list includes at least one of a create local data table option, a generate bundle request data file, an extract bundles option, and a flatten bundles into a two-dimensional space option.

27. The method of Claim 16, further comprising generating a processing report describing the generating of the at least one wiring harness assembly model.

28. The method of Claim 27, wherein the generating of the processing report model is performed according to a report parameter list customizable by a user.

29. A computer-readable medium for designing a wiring harness assembly for a system, the computer-readable medium comprising:

first computer program code means for automatically extracting wiring data from wiring harness installation models for a plurality of zones of the system;

second computer program code means for reconciling wiring connections between the wiring harness installation models; and

third computer program code means for automatically generating at least one wiring harness assembly model from the wiring data extracted from the wiring harness installation models.

30. The computer-readable medium of Claim 29, wherein the wiring harness installation models are created in a computer aided three-dimensional interactive application.

31. The computer-readable medium of Claim 30, wherein the computer aided three-dimensional interactive application generates the wiring data in a standard data format.

5 32. The computer-readable medium of Claim 31, wherein the standard data format includes one of standard for the exchange of product model data and initial graphics exchange specification.

10 33. The computer-readable medium of Claim 29, further comprising fourth computer program code means for automatically reconciling the wiring connections by correlating data extracted from wiring harness installation models.

34. The computer-readable medium of Claim 33, wherein the reconciling of wiring connections is performed according to a modifiable reconciling parameter list.

15 35. The computer-readable medium of Claim 34, wherein the reconciling parameter list includes at least one of a trapping tolerance, an association tolerance, a break model at junctions option, and a separate layers bundling option.

36. The computer-readable medium of Claim 33, further comprising fifth computer program code means for eliciting input from a user for manually reconciling of wiring connections that are not automatically reconcilable.

20 37. The computer-readable medium of Claim 29, wherein the generating of the wiring harness assembly model includes generating a single wiring harness assembly.

38. The computer-readable medium of Claim 29, wherein the generating of the wiring harness assembly model includes generating a plurality of wiring harness assemblies.

25 39. The computer-readable medium of Claim 29, wherein the generating of the wiring harness assembly model includes generating a two-dimensional model of the wiring harness assembly.

40. The computer-readable medium of Claim 29, wherein the generating of the wiring harness assembly model is performed according to a generating parameter list customizable by a user.

41. The computer-readable medium of Claim 41, wherein the generating parameter list includes at least one of a create local data table option, a generate bundle request data file, an extract bundles option, and a flatten bundles into a two-dimensional space option.

5 42. The computer-readable medium of Claim 29, further comprising sixth computer program code means for generating a processing report describing the generating of the at least one wiring harness assembly model.

43. The computer-readable medium of Claim 42, wherein the generating of the processing report model is performed according to a report parameter list customizable by a user.

10 44. A computer-readable medium for designing a wiring harness assembly for a system, the computer-readable medium comprising:

first computer program code means for automatically extracting wiring data from wiring harness installation models for a plurality of zones of the system;

15 second computer program code means for automatically reconciling wiring connections between the wiring harness installation models by automatically correlating data extracted from wiring harness installation models;

third computer program code means for eliciting user input to manually reconcile connections not automatically reconcilable; and

20 fourth computer program code means for automatically generating at least one two-dimensional wiring harness assembly model from the wiring data extracted from the wiring harness installation models.

45. The computer-readable medium of Claim 44, wherein the wiring harness installation models are created in a computer aided three-dimensional interactive application.

25 46. The computer-readable medium of Claim 45, wherein the computer aided three-dimensional interactive application generates the wiring data in a standard data format.

47. The computer-readable medium of Claim 46, wherein the standard data format includes one of standard for the exchange of product model data and initial graphics exchange specification.

30 48. The computer-readable medium of Claim 44, wherein the reconciling of wiring connections is performed according to a modifiable reconciling parameter list.

49. The computer-readable medium of Claim 48, wherein the reconciling parameter list includes at least one of a trapping tolerance, an association tolerance, a break model at junctions option, and a separate layers bundling option.

50. The computer-readable medium of Claim 44, wherein the generating of the wiring harness assembly model includes generating a single wiring harness assembly.

51. The computer-readable medium of Claim 44, wherein the generating of the wiring harness assembly model includes generating a plurality of wiring harness assemblies.

52. The computer-readable medium of Claim 44, wherein the generating of the wiring harness assembly model includes generating a two-dimensional model of the wiring harness assembly.

53. The computer-readable medium of Claim 44, wherein the generating of the wiring harness assembly model is performed according to a generating parameter list customizable by a user.

54. The computer-readable medium of Claim 53, wherein the generating parameter list includes at least one of a create local data table option, a generate bundle request data file, an extract bundles option, and a flatten bundles into a two-dimensional space option.

55. The computer-readable medium of Claim 44, further comprising fifth computer program code means for generating a processing report describing the generating of the at least one wiring harness assembly model.

56. The computer-readable medium of Claim 55, wherein the generating of the processing report model is performed according to a report parameter list customizable by a user.